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THE Chemist

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MAY, 1946



VOLUME XXIII, No. 5

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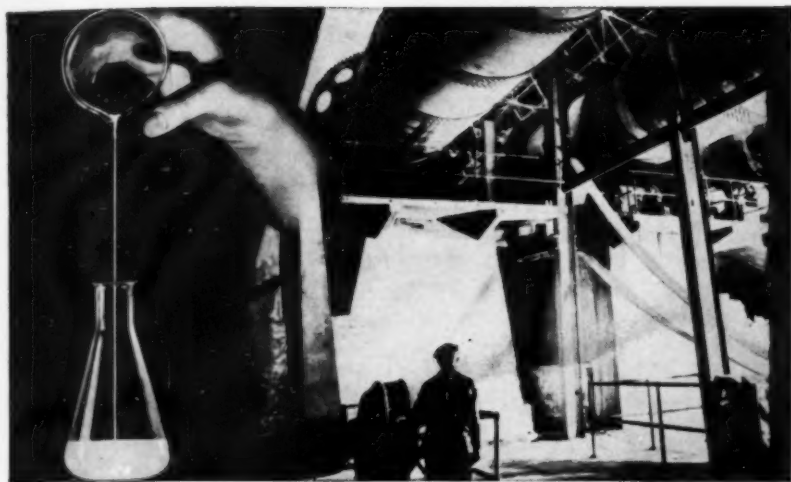
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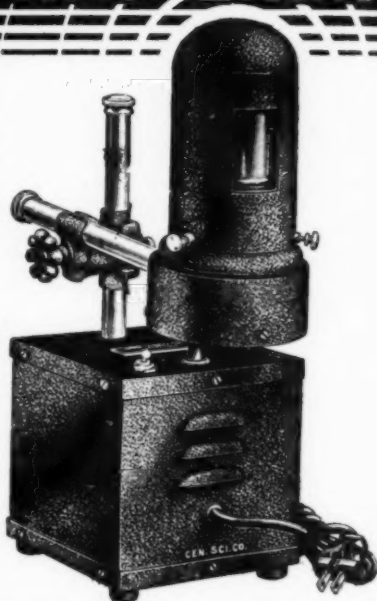
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The Chemist

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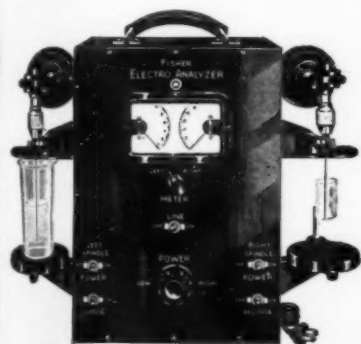
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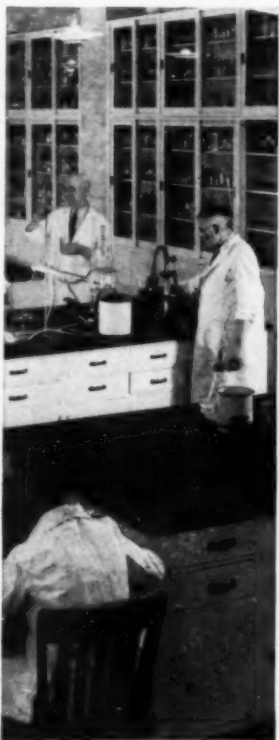
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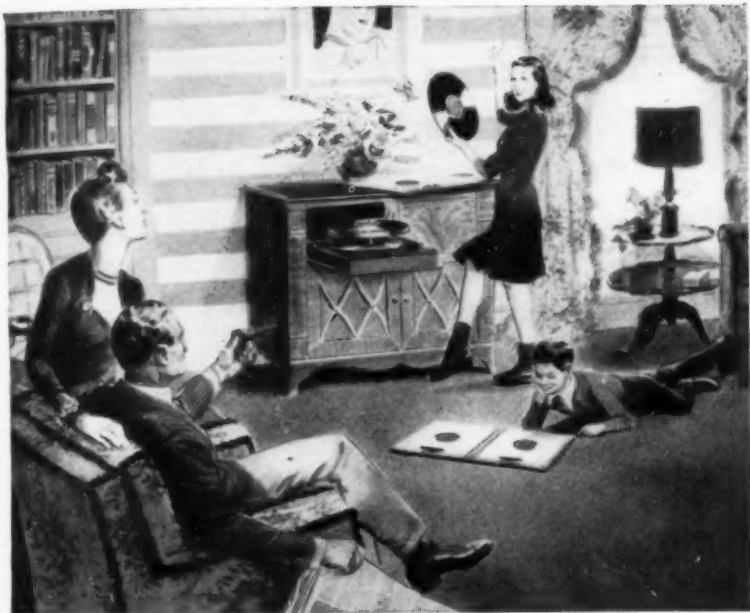
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Annual Meeting Program

THE AMERICAN INSTITUTE OF CHEMISTS

MAY 17TH AND 18TH, 1946

at

THE HOTEL BILTMORE, NEW YORK, N. Y.

Friday, May 17th

10:00 a.m. Registration. (Registration Fee \$1.00). Informal Reception—Fountain Room.

On exhibition: Display of uses of products of the Standard Oil Development Company, such as butyl rubber, Vistanex compounds, alcohols, oils, fog material, incendiary bombs, flame throwers, etc.

11:00-1:30 p.m. Meeting and Luncheon of the National Council—Rooms 110-112.

2:00-5:00 p.m. Annual Meeting—Fountain Room.

President's Address, Dr. Gustav Egloff.

Symposium: "The Professional Status of the Chemist".

A Professor Speaks: Dr. Raymond E. Kirk, Head, Department of Chemistry and Dean, Graduate School, Polytechnic Institute of Brooklyn.

A Consultant Speaks: Dr. Foster Dee Snell, President Foster D. Snell, Inc., Brooklyn, New York.

A Chemical Engineer Speaks: Dr. John M. Weiss, Chemical Engineer, John M. Weiss and Company, New York, N. Y.

The Ohio Chemists Speak: Mr. John D. Coleman, Frigidaire Division, General Motors Company; Chairman, Ohio Chemists' Committee on Professional Practice (OC₂P₂).

A. I. C. Committee Reports and Discussion.

Election of Officers; Introduction of the New President; New Business. Adjournment.

6:15 p.m. Reception and Cocktail Party to the Medalist, Mr. Robert P. Russell, President, Standard Oil Development Company—Fountain Room.

7:00 p.m. Medal Award Banquet—Ball Room.

Dr. Gustav Egloff, Toastmaster.

Speakers

Maj. Gen. Alden H. Waitt, "Russell in the War Effort". Chief, Chemical Warfare Service.

Dr. Warren K. Lewis, "Russell As I Know Him". Professor, Chemical Engineering, Massachusetts Institute of Technology.

Dr. Gustav Egloff—Medal Presentation.

Mr. Robert Price Russell—Acceptance Address, "Science Legislation and the Public Interest".

Saturday, May 18th

9:00 a.m. Inspection of the Standard Oil Development Company Laboratories and Plant at Elizabeth, N. J. Through the courtesy of The Standard Oil Development Company, buses will leave the Biltmore Hotel at 9:00 a.m. direct for the inspection trip, and later will return to the hotel. (It will be necessary to have indications in advance as to how many will take advantage of this inspection trip, so that suitable arrangements may be made.)

Research, Industry, and Government

M. H. Arveson

Presented at a meeting of the Niagara Chapter
THE AMERICAN INSTITUTE OF CHEMISTS
April 2, 1946

A NEW attitude has developed in certain sections of the American public, and in Congress, concerning the natural sciences, particularly chemistry, physics, and electricity. The things afoot as regards science, technology, and government can affect industry either favorably or unfavorably, depending on how they are handled.

The war and its spectacular end proved to every American that the work of scientists is an all-pervading, all-important factor in our lives. Perhaps it was not recognized as such in the past, but certainly it is as to the future. Chiefly through work connected with agriculture, the Federal government was moving into the field of applied technology long before World War II. It should carefully be borne in mind that in applied research the profit motive is always just around the corner, even if the work is done by government or in a non-profit institution. Possible profit or benefit for someone is hoped for, even if it is not for the experimenter. It may be for the farmer, it may be for small business, or it may be for big business. Wartime applied research,

paid for by government, struck into many fields formerly left for private competitive development; and a burning question of the day is whether this trend should be halted and turned back or should be encouraged.

The petroleum industry is no stranger to research, particularly in the fields of refining and production. As of 1938 it was expending about twelve per cent of all of the funds spent for industrial research in the United States, and I am sure that its proportional expenditure is greater today. One reason is the increasingly technical character of our business and the vast technological strides made in the petroleum war production program. Another reason is that—unlike some other industries—the petroleum industry paid for its research on war projects instead of relying on Uncle Sam.

Causes of the Crisis in Research

Two things, both of them brewing for ten or fifteen years and both of them boiling over with the termination of the war, combine to produce a crisis in research. There is a shortage of skilled chemists, physicists, and

engineers, and there is a shortage of funds to train more. The fact that the schools have not been able to keep pace is alarming, because it is on the educational institutions that we rely for trained personnel for all other research and applied technology. The reasons why the colleges and universities failed to keep pace were largely economic. A crushing load of taxation on incomes, estates, and gifts helped dry up new bequests and new endowments. Low interest rates reduced the income from existing endowments. While tremendous amounts of government money were spent in university research laboratories during the war, this expanded financial support for research did not build the national scientific staff that we need to face the post-war world. An unwise Selective Service policy took care of that. In the meantime, the general effect of World War II has been to stress the need for an accelerated technological development. We face that situation with a shortage of present technical personnel and a shortage of means to train more.

A survey conducted under the auspices of the National Research Council has indicated a desire on the part of industry, large and small, approximately to double its research and development activities—that is, to double them as contrasted with their war-time peak. This cannot be done unless adequate technically trained personnel is available.

Various Agencies Suggest Remedies

There have been several proposed remedies. The Senate Committee on Military Affairs created a Sub-Committee on War Mobilization headed by Senator Harley Kilgore of West Virginia. It has held many hearings. In the early days of the war, bills were introduced under the sponsorship of some of its members to organize the scientific personnel of the nation for total war. The proposed legislation (now withdrawn) aroused the indignation and dismay of many scientists and engineers. The proposals were challenged as demanding a degree of regimentation unnecessary and harmful even during global war.

In the meantime, the Office of Scientific Research and Development was saying nothing and doing a first-class job. Headed by Dr. Vannevar Bush and a distinguished staff of scientists and engineers, selected on a non-political basis for the business at hand, it was developing and expediting on a tremendous scale radar, the atomic bomb, the proximity fuse, penicillin, DDT, and a variety of other munitions, implements, and other special requirements for war.

Several of the senators investigating the war production program and noting the tremendous sums expended by agencies of government in research and development contracts conceived the idea that all patents resulting from the research should belong to

RESEARCH, INDUSTRY, AND GOVERNMENT

the Federal government. The idea is an attractive one and, at first glance, it appears logical. Take, for example, the case of radar. If—and I merely say *if* because I do not have the facts—if radar was developed with Federal funds, why should not the Federal government demand title to all of the patents obtained as the result of the development?

There are numerous answers to that question. They are sound answers. The simplest one is this. If we are to have competitive industry, we must have competitive advantages. Research is one of the means by which companies try to improve their competitive positions. If they cannot use their research work for improving their competitive position, why should they do research at all? If the war had lasted ten or fifteen years (as many predicted it would) and if the government had paid for all research in electronics and radar during that period, the result would have been an elimination of all technical competition in radar not only during the war but also during the immediate post-war era. The laboratories of private industry, nurtured during the war by a cost or cost plus payment for research, would have sold their birthrights. Competition would have been forgotten.

The Carefully Compiled Bush Report

The Senate, through its Sub-Committee, held many hearings on the

technological state of the nation and the necessity of Congress intervening. But in the fall of 1944, President Roosevelt wrote to Dr. Bush, asking him what could be done to make available for peacetime use the secret wartime developments of science; what could be done to aid in the war against disease; how the government could aid in research activities by public and private organizations; and how we could train the scientific talent necessary to our national well-being.

Dr. Bush appointed about two hundred distinguished men to help him answer these questions. Committees met, cogitated, and gave forth with a 183-page report which has been widely circulated. Senator Magnuson of Washington introduced a bill to implement Dr. Bush's recommendations. Four days later the Senate Sub-Committee published a previously prepared report covering its ideas of a national scientific policy; and Senators Kilgore, Johnson, and Pepper, introduced what might be called a "competing" bill to establish a National Science Foundation.

There were two principal differences between the bills. One related to the type of board which will administer Federal funds to advance science, the other to the handling of patents obtained as the result of researches conducted in whole or in part with Federal funds. These two points and others were vigorously

discussed in Senate committee rooms during October under the joint auspices of two sub-committees. Senator Magnuson headed one of these committees and Senator Kilgore the other. The issues that arose there will probably continue to be issues until the science legislation is finally passed and put into operation.

Control by Scientists or Politicians?

First, what sort of people should be relied upon to set policies and supervise the distribution of 25 to 125 millions of dollars a year to effectuate the purposes recommended by Dr. Bush and generally concurred in by the Senate sub-committee? Should it be made up of expert scientists, or of government officials, or both? Before we answer that question, let us take a look at the OSRD which gave us many new weapons and implements of war. It spent a third of a billion dollars of our money and the results were noteworthy. It was headed by Dr. Bush and its committees were composed (aside from a few military members) of scientists chosen because they were the best scientists available. They did an amazing job. While they worked at a desperate rate, they were still "part-time" in the sense that they were permitted to retain other business or professional connections.

The National Advisory Committee for Aeronautics has been running for years. It expended almost a hundred

million dollars of our money during the war years, and the results were excellent. The NACA, too, is composed of individuals selected on the basis of what they can do to advance the science of aeronautics. Many are government servants, but some are not. All of them serve on a part-time basis. We might also bow to PAW, which has been widely acclaimed as the best civilian war agency. Possibly that was because it was staffed with experts in the technology of oil—people of experience in the field in which they were working. And, lastly, universities themselves are operated by part-time boards of trustees which select administrators to carry on their policies. This is true even of tax-supported universities.

Certainly it is not surprising that Dr. Bush and his associates recommended that the new research agency be made up of citizens selected only on "the basis of their interest in and capacity to promote the work" and that "they should be persons of broad interest in and understanding of the peculiarities of scientific research and education"; and that the full-time chief executive of the Foundation should be selected by and should be responsible to the board. The Magnuson Bill so provided.

The Kilgore bill provided for a powerful director appointed by the President and a board that was "advisory." The board, also appointed by the President, was to consist one-

RESEARCH, INDUSTRY, AND GOVERNMENT

half of "public members" and one-half of heads of such government agencies as the President may determine.

At the sub-committee hearings, the testimony split on an interesting basis. Naturally enough, most of the scientists, educators, and industrialists favored Dr. Bush's plan. Military witnesses generally favored it, probably because they had learned, through the activities of OSRD and NACA, what an expert group could do when turned loose on a job. The A. F. of L. also sided with Bush on this point.

But Washington officialdom turned out in some force on the other side. Some cabinet officers argued that part-time service of citizens was not reliable and that the responsibility (and the job of expending the money) should be left mainly in recognized full-time public servants. They proposed, in effect, that the professors and doctors return to their ivory towers and let somebody run the thing who knew how. The CIO supported their position.

Other Differences

Another interesting feature of the Senate hearings was the discussion of *what sort* of research should be sponsored. There is, of course, practical unanimity on military research, and medical research—even though such programs would touch the field of applied research—and on basic scientific research and education. There was immediate evidence, however,

that the NSF would be subjected to pressure from special groups. A farm organization endorsed the plan, but only on condition that one express research assignment be the improvement of family-type farming. Someone tossed the social sciences into the hopper. Admitting the supreme importance of that field, it seems pretty obvious that whatever, if anything, is done should not be administered by a board competent to handle chemistry, physics, and engineering.

Dr. Bush and his associates feel that the Foundation should leave the field of applied technology where it is now; i.e., in private enterprise. However, representatives of some of the government bureaus apparently feel differently. Some of their most important arguments for a National Research Foundation are that it should aid little business by acting as a sort of National Research Department; by developing gadgets, patenting them, and turning over free licenses to all businesses.

The Patent Question

The Magnuson (Bush) bill accepted the patent situation as it found it and left the Foundation free to arrange an equitable plan with each contractor who conducts research under its auspices. Each situation differs from the others as to equities, such as past commitments to the staff and the degree of interest in the proposed contract. The foundation should not have its hands tied by a matter which

is of secondary importance from the government's point of view. Should the government place a contract for a particular piece of research with a consulting laboratory or the research department of a corporation, it ought to cut the patent contract to fit. If the field of investigation is narrow enough or the contract price is substantial enough to pay not only the out-of-pocket expense and normal overhead but *also* for the intangible but nevertheless substantial expense over the years in building up the contractor's organization and "know-how," it might demand that all patent rights be dedicated to the United States. Usually, however, this is not the case.

If the government needed, for example, a specially strong and waterproof towrope for gliders, and asked the duPont Company to do research on a new and stronger polyamide fiber, the problem might be solved in a few months; but obviously the duPont Company would solve it by means of a special background of research knowledge built up over a period of years. That special research knowledge is the property of the duPont Company and could not be bought simply by paying for the time spent on the glider towrope problem. The industrial research that clicks must pay for that which doesn't. Therefore, depending upon which projects the government elects to sponsor, the equities may vary widely.

Certainly the government should not be permitted to skim the cream by asking companies to do government research—and give up the patents—in the fields in which those companies have made their greatest successes. And yet the government would naturally want companies to work in their particular fields of specialized knowledge.

In the subcommittee discussions Senator Kilgore and his supporters pretty generally ignored the fact that "government-supported" was defined as being financed in whole or in part by the government. If the government paid for one per cent of the work on a project at a university or non-profit research institute, the government was to acquire *all* the patent rights, no matter who paid the other ninety-nine per cent of the bill. Obviously this was grossly inequitable. I therefore feel in the more usual case the Foundation should leave the patent ownership with the contractor and require a license on behalf of government—a license to "make, or have made, and use." This patent policy *is*, roughly, the pre-war policy of the armed services and the wartime policy of the War and Navy Departments and of the OSRD. During the Senate hearings the contracting officers for the Army and Navy testified that this general policy has worked satisfactorily and that, in their opinion, the public interest has been safeguarded.

If the Federal government wishes to recast its whole patent policy in the field of government financed research, it has a great deal to do. In some agencies full-time Federal research employees are required to assign all their patentable inventions and in others they retain some part of the rights. In some bureaus the policy is well established that all patents should be dedicated to the free use of all the public; in others there is at least an expressed desire to control the terms upon which business may use some government-owned patents.

Attempted Patent Reform by Indirection

One thing is certain: *if* all patent policy in all branches of the government is to be modified or codified, it had better be done directly by special legislation rather than as a rider on a bill that covers something as important to national welfare as Dr. Bush's proposal. Most of his supporters deplore the emphasis given to patents, because they feel that the real need is the nurturing of basic research and scientific education and that in such a circumstance patents are relatively unimportant. Basic science cannot be nurtured without subsidizing universities and colleges. A legal demand that these institutions turn over all patentable inventions evolved in programs which received any Federal subsidy whatsoever was

certainly a demand that the tail wag the dog.

Committees of Scientists

On November 14th, a "Committee in Support of the Bush Report" was formed under the chairmanship of Isaiah Bowman. It comprised an impressive group of top-flight leaders in the major professional fields—forty-three men in all. Among the chemists and chemical engineers were Roger Adams, Bradley Dewey, James B. Conant, George Granger Brown, C. S. Marvel, Frank C. Whitmore, E. H. Volwiler and Robert E. Wilson. After weighing all the testimony at the Senate sub-committee hearings, they wrote a letter to President Truman in support of the Bush report and the Magnuson bill. This letter was signed by the committee. Subsequently, thousands of scientists, educators, and industrial leaders signed this letter. A revised printing of the letter containing these signatures was printed and widely circulated.

Compromise Bills

A proposed compromise between the Kilgore and Magnuson positions was brought out as S.1720. It pretended to set up an independent board which would have an executive secretary of its own and turn in independent reports. It would therefore act as a watchdog on the politically appointed administrator. The setup was such, however, that it would be possible to have the board dominated by politically controlled members; and the in-

dependence of the board was therefore more an appearance than an actuality.

The patent clause was relatively satisfactory as regards industry; it recognized that partial payment by the government does not logically entitle the government to commercial rights. But the bill did not have such an escape clause for non-profit institutions. Dr. Vannevar Bush expressed himself as willing to accept S.1720 if provision were made for a board truly independent of political influence, for elimination of the clause prescribing a patent policy for all government agencies, and for extension of the escape clause as regards patents to include non-profit institutions.

Another bill, S.1777, was brought out early this year by Senator Willis of Indiana and seven other Senators. It is far to the right of both the Magnuson and Kilgore positions. It sets up a National Science Foundation of fifty distinguished leaders in various fields of science and leaves determination of policies and procedures almost entirely in the hands of this foundation. The bill should exert a considerable influence in the proper direction in discussions on the floor of the Senate.

After a series of meetings involving Senators Magnuson and Kilgore and their committees, as well as Vannevar Bush, Isaiah Bowman, and numerous other leaders in science, a

compromise between the Magnuson and Kilgore positions has been achieved. This is S.1850.

Some Provisions of S. 1850

Under S.1850 the President would consult with the National Science Board and then appoint, with Senate approval, a full-time administrator at \$15,000 a year, and a deputy administrator at \$12,000. Divisional directors are appointed by the administrator and receive \$12,000 per year. The divisions are: Mathematics and Physical; Biological; Social; Health and Medical; National Defense; Engineering and Technology; Personnel and Education; and Publications and Information.

Each has a scientific committee of five to fifteen members appointed by the administrator. Each elects a chairman. These divisional chairmen plus nine presidentially appointed members constitute the National Science Board. The National Science Board has a full-time executive secretary which it selects. He is paid a salary not exceeding \$12,000. The board is expected to continuously survey the activities and management of the Foundation and will have access to all information in possession of the Foundation.

The administrator reports to the President and Congress annually. The board reports independently, annually or oftener, to the President and to Congress its recommendation for furthering the objects of the Act. Fifty

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dollars per diem rate of compensation, plus traveling expenses, is provided for board and divisional committee personnel. Necessary immunity is provided under various government regulations adversely affecting part-time personnel.

The National Defense and Medical Divisions are expected to go into applied research. The bill is clear that the other divisions are expected to stick to basic matters. Even the Engineering and Technology Division, to quote the sub-committee report, is to concern itself with "research in the fundamental engineering sciences and other studies basic to the broad development of technology, not the engineering development of machines or processes."

The concentration of Foundation activity in the field of basic research means that patents should not loom up as a very important factor in its work. The compromise on this point, while labored in language, is essentially the adoption of the patent policy used successfully by the Office of Scientific Research and Development during the war. I have already outlined that policy. I think that both the universities and private industry laboratories can live under it and abide by it. However, the provision concerning public ownership of patents derived from Federally financed research applies to *all* government agencies—including War and Navy and Agriculture. This attempt to set the

patent policy for existing government agencies hardly seems a justifiable part of a bill aimed primarily at setting up a new agency.

A Social Science Division of the Foundation is set up in the bill, but the scope of its work is to be decided by the Board, after it is established. It is to be hoped that this important subject will eventually be dissociated from the physical and mathematical sciences, in a separate agency of its own. A provision for partial geographical distribution of the research funds also seems ill advised.

When and if this bill is introduced in the Senate it may be passed, voted down, or so mangled by amendments that its authors won't recognize it. It is anyone's guess, but my guess would be that it may pass the Senate in about its present form. It is part of the President's legislative program and it will have some support from the minority side. What will happen in the House of Representatives I do not know. The Committee supporting the Bush Report has endorsed S.1850, though with the comment that many scientists are not very happy about the provisions regarding the social sciences, geographical allocations, and the dictating of a patent policy to all the other government agencies.

It is important that scientists keep in touch with the general situation and that they be responsive. I think all of us would be greatly disturbed

as regards the scientific future of the country, if any substantial part of our scientific work should be brought under the domination of an agency controlled by politicians. The immediate past has clearly demonstrated that the political figures most active in proposed science legislation should not have this great responsibility. They do not know how scientific research operates and they have shown a discouraging lack of willingness to learn. Senator Kilgore's attitude seems to be that he appreciates the advice of the distinguished scientists who testified at the sub-committee hearings, but he is forced to ignore their warnings about the dangers of political control. Scientists are quite unjustified, he seems to feel, in fearing that politicians might ignore the advice of scientists.

Senator Kilgore's ideas would have prevailed except for the fact that the scientists, as in the case of his previous bills, expressed their opinions strongly. Dr. Bowman and his colleagues were sufficiently concerned to exercise a considerable amount of initiative and to solicit expressions of opinion from other scientists. These efforts were successful because the other scientists were responsive; and the good effects will be noticeable not only in the present legislation but also in any future legislation. No politician for a considerable time will draw legislation which totally neglects the scientific viewpoint. It has

been demonstrated that the opinions of scientists can be mobilized and that the scientists are an influential group—as indeed they ought to be.

There is therefore considerable need for continued alertness and for expressions of opinion by you to your congressmen and senators. Form letters or form telegrams are understood to have comparatively little effect on legislators; but carefully considered personal letters stating a logical viewpoint and giving reasons for that viewpoint are usually not ignored—and certainly not by the legislative advisors who collect the data on which the senators' opinions are based.

It seems to be agreed that in the past chemists have shown too little social responsibility—or, perhaps more accurately, they have not taken the steps necessary to implement the social responsibility which they actually felt. I believe it is in line with the feeling of THE AMERICAN INSTITUTE OF CHEMISTS that increased participation in public affairs would be desirable both for the chemists and for the nation.

Harber Joins Bjorksten Laboratories

Bjorksten Laboratories, Inc., 185 N. Wabash Avenue, Chicago, Illinois, announce that Dr. William I. Harber has joined the staff as senior organic chemist. Dr. Harber was formerly head of the organic products department of Witco Chemical Company.

Washington Chapter, A. I. C. Presents Views on Science Legislation

THE Washington, D. C. Chapter of THE AMERICAN INSTITUTE OF CHEMISTS has sent the following letter and statement of its views to the members of the Senate Committee on Commerce and the Senate Committee on Military Affairs, which recently held joint hearings on science legislation:

My dear Senator:

The American Institute of Chemists is a professional organization numbering more than 2,000 members, devoted to improving the welfare of chemists. The Washington Chapter has given deep consideration to the bills on Science legislation, now before Congress. In view of the profound effect such legislation will have on chemists, the Washington Chapter wishes to present its views to you.

The attached statement outlines the broad principles upon which the legislation should, in our opinion, be formulated. Although we realize that numerous details must be incorporated into the proposed bill, we do not desire to enter into a discussion

of them, being content to develop the basic principles.

We earnestly ask that you consider these views in enacting Science legislation.

Respectfully yours,
LOUIS N. MARKWOOD
*President,
Washington Chapter*

Statement of Views on Proposed National Science Legislation

1. This Chapter approves the idea of establishing a National Research Foundation. The purpose of such a foundation should be:
 - (a) To secure lasting peace through Science and Research;
 - (b) To create a broad basis for understanding and promoting the welfare of the citizens—their individual health, happiness and economic security.

The establishment of the foundation should be made the opportunity for a definite and far-reaching demonstration of a long-term peace effort. No discovery or achievement in physical science, however epochal, can

outrank the importance of contributions to the prevention of war. The debasement of conflict and the folly of using man's highest gifts to serve destruction should be impressively demonstrated.

Although a prime purpose of the foundation is to secure peace, it would also benefit the nation during periods of emergency. The scientific approach builds up public morale, without which the best weapons are useless and master tools fail to achieve production goals.

2. The functions of the foundation should be:
 - (a) To investigate and publicize scientific ways and means for securing peaceful relations between nations;
 - (b) To foster and utilize scientific methods in all problems;
 - (c) To spread the understanding and application of science in place of unfounded and unreasoning emotions;
 - (d) To explore neglected and remote lines of research, without regard to immediate use or profits;
 - (e) To investigate living and working conditions in the interest of full personal development and maximum production;
 - (f) To explore all avenues fearlessly and disseminate the findings truthfully, regardless of effects

on individual interests.

People have tried to prevent wars by denunciation, by laws and by covenants, but have totally failed. There is no prospect for success by more laws and covenants. Of all approaches to conquer man's worst plague, science holds the greatest promise. Objective scientific research can reveal the absolute failure of war as a means of solving international problems and demonstrate the superiority of rational methods. We believe that friction between nations can be converted, through the resort to science, into a force for progress instead of a cause of destruction.

In the domestic economy endless strife between Labor and Management can nullify the blessings of ample resources in materials and manpower. But basic research of wide scope and scientific impartiality can build the foundation for sound and long-range decisions that will eliminate this evil.

Theoretical and abstract scientific investigations can lead, as we know now to practical achievements of the highest order. The record abundantly shows that today's abstractions become tomorrow's practical realities. It is granted that industrial research has already reached high peaks of accomplishment in

special products and techniques. However, a broadened base, with full correlation between the different parts, as contemplated in the foundation, will multiply these achievements. Since science can function for good or for evil, its direction into humanitarian channels should be the concern of the foundation.

The money to be spent on research by the foundation will not yield the proper fruit unless the individuals operating it exemplify fully the impartial spirit of science. The foundation should nurture this spirit and from it will spring increasing numbers of scientists. Their widespread and beneficent influence can vastly improve the conditions that have prevailed heretofore.

Basic national problems awaiting investigation include: Public health, youth and old-age problems, food supply, the soil and its fertilization, conditions for work and recreation, personal freedom within the restrictions of organization, and the expression of personal values in the daily work. Private organizations can investigate such fields only within limited bounds. A national agency is necessary for the task in its broadest aspects.

For the Washington Chapter
EDUARD FARBER
Chairman, Committee on
National Legislation

RALPH L. EVANS ASSOCIATES

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Postwar Inventions and Employment Contracts

Vanderveer Voorhees, F.A.I.C.

Chairman, Committee on Contracts, The American Institute of Chemists

The Committee on Contracts, originally a committee of the Chicago Chapter and later established as a National Committee, has been working on this report since March, 1944. Suggestions and comments from a considerable number of people have been solicited and received. These have been used as guides for the committee in its deliberations and in the preparation of this report.

IN a previous report on this subject which appeared in *THE CHEMIST* (Feb. 1945), the problem of providing a fair and equitable contract for chemist-employees was outlined and it was suggested that the true function of a contract should be to define, as accurately as feasible, the rights of employer and employee, and that any plan for stimulating employees to make inventions and improvements for the benefit of the employer should be maintained separate from the employment contract. The work of this Committee has been directed chiefly

toward devising a fair and equitable contract although it has not been possible to disregard the larger subject of providing chemists with incentives to better and more productive work. Therefore, a brief discussion will be devoted to this latter phase of the subject also.

The law on employment contracts relating to the assignment of patents has been very well summarized by Carlton Hill in "Industrial Review" I.M.A. (May 1945) No. 158, page 5. Agreements are divided into three classes depending on whether they assign rights to inventions of every type, inventions relating in any way to the employer's business, or only inventions falling directly within the scope of the employer's business. Under an agreement of the first class—

"... we may have a case where a man hired to sweep floors in an aircraft plant would be obligated, under his contract, to assign his employer an invention pertaining to a toothbrush invented during his spare time."

In conclusion, Mr. Hill recommends that

"Industry should endeavor to

POSTWAR INVENTIONS AND EMPLOYMENT CONTRACTS

adopt some definite plan to assure that worthwhile inventions made and assigned will bring to the employee a fair measure of recognition and reward. We believe that such reward should be under the control of and at the discretion of management, but we feel with equal seriousness that impartial liberality in such respect will pay high dividends indeed."

THE CONTRACT

In response to our appeal for specimen contracts, a goodly number were received and the Committee takes this opportunity to thank all those members of the Institute and others who sent in copies of contracts, prepared at their own expense. A study of these contracts has shown that certain provisions have been considered almost essential by their occurrence in most all contracts. Other provisions have seemed to be unfair or unnecessary. Following are some falling in the latter category:

Undesirable provisions of current contracts:

1) Inclusion of "related", "affiliated" and "associated" companies as co-employer and requirements to assign inventions relating to any of their businesses.

(The business of such "affiliated" companies is often quite unrelated to that of the employer. Recalling the doctrine of the

Dubilier* case in which the Supreme Court limited the employer's right in the absence of a contract to those inventions which employee was specifically requested to make, it appears that the employee should not be requested to assign inventions entirely unrelated to his work. It is even questionable whether subsidiaries may fairly be included with the employer company as an entity.)

2) Requirement to assign inventions made previous to employment.

3) Requirement for employee to assign "any inventions which he may make".

4) Requirement to assign all inventions in the particular field made within an extended period, e.g., two years, after leaving employment.

5) Requirement to assign inventions "relating to the then business of employer or *reasonable extensions* thereof".

6) List of all previous inventions required. (Employee may not have access to his records. Also, he may be prevented by previous contract.)

7) Employer decides if the invention is patentable to the employee with no appeal.

8) Unrelated inventions must be disclosed to employer who is given right of purchase or refusal before employee may offer to others.

9) Invention reverts to employee

*17 U. S. Pat. Q. 154

if employer fails to use it within three years.

10) Invention reverts to employee if employer fails to "take steps" to file within six months.

(This provision is obviously too indefinite to be enforceable and six months is too long a delay to protect the invention in many cases.)

11) Employee may request a "release" after six months which must be granted or an application filed within another two months.

12) Employer pays assignment fee as high as \$50.00 or \$100.00. (See discussion later.)

These and about fifty other provisions of specimen contracts were critically examined with a view to including in a "model" contract those which will best help to define the respective rights of the chemist-employee and his employer, without becoming cumbersome or unworkable. The following is the result of this study.

PROPOSED EMPLOYMENT CONTRACT

THIS AGREEMENT entered into this _____ day of _____, 19____, by and between _____, (employer) a corporation of the State of _____, hereinafter called "COMPANY" and _____, (employee) hereinafter called "EMPLOYEE",

WITNESSETH:

WHEREAS, COMPANY is engaged in the business of producing, selling and otherwise dealing in

(products and/or processes) and owns or controls patented and secret processes and/or formulas relating to said business, and

WHEREAS, COMPANY is interested in research and development directed toward the improvement of said products and processes, and,

WHEREAS, EMPLOYEE is a qualified _____ (chemist) (engineer)

(chemical engineer) trained in research and is desirous of entering or continuing in the employment (as the case may be) of said COMPANY,

NOW THEREFORE, in consideration of the employment of EMPLOYEE by COMPANY and of the mutual covenants, agreements and understandings set forth hereinafter, EMPLOYEE and COMPANY contract for themselves, their assigns, executors and legal representatives as follows:

1) EMPLOYEE shall devote his entire time, skill, and best efforts during the period of his employment by COMPANY to such duties as may be assigned to him, shall aid to whatever extent he can, consistent with the performance of his specifically assigned duties, in the prosecution of research and technical development and in making and perfecting of in-

POSTWAR INVENTIONS AND EMPLOYMENT CONTRACTS

ventions and discoveries suitable for use in connection with the business of COMPANY and its subsidiaries, and shall faithfully and diligently serve and endeavor to further the interests of COMPANY during said period of employment.

2) COMPANY shall pay said EMPLOYEE a wage or salary mutually agreed on from time to time during the period of his employment.

3) COMPANY may terminate the employment of EMPLOYEE at any time and for any reason giving _____ days notice, but any act of unfaithfulness to duty by said EMPLOYEE shall release COMPANY from this requirement to give notice.

4) EMPLOYEE may resign at any time by giving _____ days notice in writing of his intention to do so.

5) EMPLOYEE will disclose promptly to COMPANY any invention, discovery or improvement in machines, manufactures, compositions, processes or methods conceived by him, either alone or with others, during the period of his employment and suitable for use in the business in which COMPANY is engaged at the time of said invention, the term "business" as used in this article being understood to include research programs on which technical developments have been undertaken by COMPANY.

6) EMPLOYEE agrees to assign all his right, title and interest in and to such inventions, discoveries and

improvements to COMPANY, including the right to prosecute patent applications therefor, and he will not disclose them to others without the consent of COMPANY.

EMPLOYEE further agrees that, whenever requested to do so by COMPANY during his employment or thereafter, he will execute assignments to COMPANY or its nominee of any such inventions, discoveries or improvements conceived, tested or perfected during his employment and will execute all papers and perform all other lawful acts which COMPANY deems necessary for the preparation, filing, prosecution and maintenance of patent applications and/or patents of the United States or foreign countries and for transfer of interests therein, including the execution of original, divisional, continuing or reissue applications, preliminary statements, affidavits, or concessions, and giving a factual testimony with respect to said inventions, discoveries and improvements. All expense connected with developing and/or patenting said inventions, discoveries and improvements shall be borne by COMPANY and after termination of his employment, EMPLOYEE shall be compensated for any service rendered at COMPANY'S request at the rate of Fifty Dollars per day, in addition to traveling and personal expense incurred in complying with said request.

7) Transfer of EMPLOYEE to

other duties which do not include the making of inventions will terminate those provisions of this contract relating to the disclosure and assignment of inventions, providing said transfer is directed in writing.

8) COMPANY will consider promptly, every invention, discovery or improvement submitted by EMPLOYEE and, within ninety days of receipt of a full and complete disclosure thereof in writing, will advise EMPLOYEE of intention

- a) To file a patent application on the invention; or
- b) To keep the invention secret with the expectation of using it in its business; or
- c) To reject the invention as apparently unpatentable or of no interest to COMPANY.

If COMPANY elects to file, it will prepare or have prepared a patent application for the invention, obtain the signature of EMPLOYEE thereon and an assignment thereof as provided in Article 6 hereof, and file the application in the Patent Office within six months of the date of receipt of the said complete written disclosure. An Invention Assignment fee of Ten Dollars will be paid EMPLOYEE by COMPANY at this time, whether he is sole or joint inventor, for each original or continuing United States application.

If COMPANY elects to keep the invention, discovery or improvement secret, or if it fails to file a patent

application within said six months in accordance with election under above paragraph (a), EMPLOYEE will execute an assignment to COMPANY therefor and COMPANY will pay EMPLOYEE an Assignment Fee of One Hundred Dollars.

9) For each United States patent which issues to COMPANY on an invention of EMPLOYEE, he shall receive from COMPANY a Patent fee of Fifty Dollars except that in the case of a patent for a joint invention, the Patent Fee shall be equally divided among the several inventors, and no Patent Fee shall be paid for Divisional and Reissue patents or foreign equivalents.

10) Any invention, discovery or improvement suitable for use in COMPANY'S business as defined hereinabove, which has been rejected under subparagraph (c) becomes the property of EMPLOYEE except that EMPLOYEE agrees to give COMPANY and its subsidiaries (if any) a free license to make, use and/or sell such invention in their business at any time when he is requested to do so during the period of his employment and for ninety days thereafter.

11) It is mutually agreed that any controversy or claim arising out of or relating to this contract or the breach thereof shall be settled by arbitration in accordance with the rules then obtaining, of the American Arbitration Association, 9 Rockefeller

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Plaza, New York, and judgment upon the award rendered may be entered in any Court having jurisdiction thereof; or at the option of COMPANY, said controversy may be referred to a disinterested Patent Attorney acceptable to EMPLOYEE or to a Patents Committee constituted of employees of COMPANY, one-half appointed by COMPANY and one-half elected by EMPLOYEE and his technically trained associates, the decision of said Association, Patent Attorney or Patents Committee being equally binding. The cost of obtaining a decision by any of these methods will be borne by COMPANY.

12) EMPLOYEE agrees that he will not disclose or use at any time, either during or after termination of his employment, any secret or confidential information, knowledge or data belonging to COMPANY without COMPANY'S written consent except as required by his service to Company or by law, and that at all times he will observe a high standard of professional ethics in the treatment of such matters.

IN WITNESS WHEREOF, the parties hereto have signed this agreement in duplicate this _____ day of _____, 19_____.

(Company)

By _____

(Officer)

ATTEST:

Secretary

L. S.

(Employee)

WITNESS:

With appropriate changes and insertions, this form of contract should be adaptable to most situations where chemists are employed to do research and development work. Chemists employed for other work should not be required to sign such a contract. Any inventions they may make belong to the inventor, subject to a shop right and should be handled separately, preferably under a plan of awards.

Since the laws of the different States differ with respect to the contractual relations between employer and employee, they should be examined in each case.

The employer's business activities should be rather carefully outlined in the first "whereas" clause, for example, as "the treatment of hydrocarbons or carbonaceous or carbon-containing materials or derivatives therefrom or products thereof or processes or apparatus for use in connection therewith" or "whiskey, alcohol, spirits, gins, wines, liqueurs and the like" and products containing them.

The purpose of the assignment fee, that is, the nominal fee paid at the time of filing, and the patent fee, i.e., the fee paid on issue of a patent, is not as compensation for the invention or even as an incentive to make

and develop inventions, but to encourage, in a simple way, and at little cost, the submission of ideas and cooperation of the inventor with the patent attorney during the preparation and prosecution of the patent. It is felt that the amount of such fees should be relatively small where the amount is the same for inventions of slight value as for important inventions. In particular, a low assignment fee is consistent with the possibility of anticipation and abandonment of the application.

The notices of termination of employment in Articles 3 and 4 may reasonably be thirty or sixty days. They automatically provide a period for completing and executing patent applications which may be in preparation.

It will be noted the contract does not seek to restrain employee from entering into competition with employer after termination of employment, requiring only that business secrets and confidential information be respected. This is in accord with present day standards of employer-employee relations and with the rulings of the courts in recent cases such as *Continental Car-Na-Var Corp. v. Moseley*—61 U. S. Pat. Quar., 532, wherein the Supreme Court of California held a chemist to be within his rights when he sold to customers of his former employer. In a careful analysis of the law on this subject the court stated:

"The courts regard as unfair competition, and will enjoin, the use by an employee to the prejudice of his former employer of the confidential information gained by the employee during his prior employment as to the business secrets of such employer." However, in the absence of a contract to the contrary, "Every individual possesses as a form of property, the right to pursue any calling, business or profession he may choose."

In the case of *Sprague Electric Co. v. Cornell-Dubilier Electric Corp.*, 66 U. S. Pat. Quar., 431, a Delaware District Court held an employment contract unenforceable, one of the reasons being that "the contract goes beyond the protection of trade secrets and embraces *anything* that the employee saw or learned during his employment. "... The agreement ... puts a restraint upon the employees' right to labor or exercise their skill, greater than is necessary for the fair protection of the defendant..."

AWARDS FOR INVENTIONS AND IMPROVEMENTS

In its recent report "Science, The Endless Frontier", the Bush committee said "Patents are the life of research... This Committee wishes to emphasize... the very vital importance of a strong patent system to the development of new and active small enterprises and the stimulation

of healthy scientific research." John W. Anderson of the Anderson Co., Gary, Indiana, says: "The basic catalyst of our incentive economy is our patent system and the inducements it offers to create new and better products." One of the problems in the agenda of the National Patent Planning Commission listed in its report of June 1945 was "Study of employee suggestion systems and rewards for distinguished services" showing a growing realization of the importance of this subject to our patent system.

A viewpoint not generally appreciated is that awarding inventive effort can be good business, not just altruism. This thought is voiced by Mittler in *Journal of Pat Off. Soc.*—May 1945—page 316, in the following paragraph:

"The stimulation of inventive activity of the employed inventor if he sees his financial interests safeguarded must necessarily result in the promotion of the advantages which the employer derives from such work and should therefore be welcome not only from an enlightened point of view of social fairness but also from the sober aspect of increased profits."

"Inventive activity" does not only mean getting new ideas, but perhaps more important, testing and developing those ideas.

The underlying reason for the suc-

cess of the American patent system is the graduation of reward for inventions according to their relative importance. If this principle is important for the nation, it should be no less important for a group of scientific workers within an organization bound by contract to assign their ideas to it. Were all inventions assigned to the public, as is sometimes done by inventors in Government laboratories, then the patent system would be nullified. For the same reason, the patent system is largely nullified within large groups of chemists under contract where the individual inventor is deprived of the stimulation which comes from rewards *commensurate with the value of the invention.*

It is not the purpose of this Committee to work out a system of invention awards, but since this subject is inseparably tied to that of invention contracts, and a great deal of interest has been indicated in an incentive plan, it will not be out of place here to present briefly some of the features which have been suggested as essential to a workable award plan. These are as follows:

1) Crystallize the provisions of the Awards Plan, in a printed booklet freely available to all employees, presenting it as a policy subject to non-retroactive change at any time when found desirable by the employer.

2) Do not exclude the "contract workers" from the awards as some

companies do now, apparently on the theory that they are already sufficiently compensated. These workers, trained in science, are potentially the richest ore from which the gold of inventions may come, and their exclusion from financial interest in their inventions cannot fail to have a depressing effect on their creative productivity.

3) Give the inventor a specified share in the profits from his brain-child. A reasonable share might be twenty per cent for a period of three years from the date the invention is put to use.

4) Award patentable and unpatentable ideas alike.

5) Employ ordinary accounting and estimating methods to determine the profits or savings resulting from the use of an invention by the employer or his cross licensees. Investment costs in a new process should be spread over a reasonable depreciation period, in determining the actual savings over the old process.

6) Maintain an awards committee composed of chemists, patent attorneys, engineers, and accountants whose duty it is to meet at regular intervals and administer the plan. It will be necessary for this committee to consider only those improvements actually put into practice within the preceding three-year period.

Amount of Award

Some awards plans now in use to stimulate the disclosure and promo-

tion of new ideas are so niggardly in the amounts awarded that they defeat their own purpose. Thus, one company gives a workman the savings made by use of the method on his particular machine for a period of two months! The twenty per cent—three-year share suggested above may seem too low. It is offered only as a guide and, if tried and found too little or too much, the plan can easily be amended. In arriving at a fair return to the inventor (and associates), we must not lose sight of the fact that this award is not intended as full compensation, particularly in the case of employees hired to make improvements. Also, the employer bears all the patent expense and takes all the risk, paying out to obtain commercially worthless patents along with those of value. It is not particularly important from the employer's standpoint to attempt to determine exactly the proper amount of the award, since it can be considered broadly as salary and wages anyway.

A distinction could well be made between savings on improvements in the employer's processes, etc., and cash royalties received from others. Thus, the inventor's share of the latter might continue for the life of the patent. It should be good business policy for a company to have a generous patent policy as it cannot fail to attract chemists of inventive ability.

POSTWAR INVENTIONS AND EMPLOYMENT CONTRACTS

Teamwork

The general distribution of part of the royalties and savings from improvements among all employees or among the immediate associates of the inventor should definitely encourage teamwork and prevent ill feeling among co-workers which might arise from one receiving a special award without simultaneous recognition of the help given by others. Thus, an award of twenty-five per cent might be split three or four ways, giving ten per cent to the inventor (or inventors), ten per cent to his immediate co-workers, and five per cent to the entire remaining laboratory staff. The staff might also be divided into teams for the purpose of sharing awards.

Those interested in this subject will find it profitable to read about two "suggestion plans" described in the *National Petroleum News* for July 4, 1945, page R-507; and August 1, 1945, page R-626. Although the plans described there are acclaimed as very successful, one saving \$182,-123.00 in seven years at a cost in awards of only \$3,770, one wonders what results might have been obtained had a more generous share of the savings been dispensed. Protection of inventor's interest in Austria and Czechoslovakia is summarized by Dr. Abel in the *Journal Pat. Off. Soc.*—May 1945—page 323.

Summary

An employment contract for chemists is proposed whose provisions are thought to define the respective rights of employer and chemist more fairly, accurately and simply than many such contracts now in use.

An Awards plan is outlined whose adoption it is believed will stimulate new ideas and their development by making the award commensurate with the value of the idea, i.e., by applying to groups of chemists who have been largely stripped of their patent rights by contract, the magic principle which has made the American Patent System a success.

Vanderveer Voorhees, Patent Attorney, chairman

L. F. Shackell, Patent Attorney

Thomas Ford, General Manager, Keystone Asphalt Products Co.

H. H. Vagenius, Patent Attorney

Clifford Hampel, Research Chemist



Harold M. Olsen, vice-chairman of the Pennsylvania Chapter of THE AMERICAN INSTITUTE OF CHEMISTS, and chief chemist at the Philadelphia Laboratories of the Harshaw Chemical Company, has been transferred to the Cleveland Laboratories of that company where he will be in charge of research on metallic soaps.

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Miller Retained By Universal OilDr. Walter Miller, who retired
March first as vice president in
charge of manufacturing for Con-
tinental Oil Company, has been re-
tained by Universal Oil Products
Company, Chicago, Illinois, as con-
sultant on refining techniques and
operations.Dr. Hilton Ira Jones, F.A.I.C.
addressed the Detroit New Century
Club at its meeting held April ninth,
Detroit, Michigan, on the subject of
"Glimpses of Things to Come",
which he illustrated with samples of
useful things which scientists had
made from materials formerly thought
worthless.



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<i>Northern Ohio</i> M. J. BAHNSEN	<i>Western Pennsylvania</i> W. H. HILL	<i>New Jersey</i> HORACE E. RILEY

April Meeting

The 227th meeting of the National Council of THE AMERICAN INSTITUTE OF CHEMISTS was held April 2, 1946, at The Chemists' Club, 50 East 41st Street, New York, N. Y., with Dr. Donald Price, vice president, presiding.

The following officers and councilors were present: Messrs: S. R.

Brinkley, Frederick A. Hessel, D. B. Keyes, J. M. McIlvain, R. J. Moore, E. H. Northey, Donald Price, and Lloyd Van Doren.

The minutes of the previous meeting of the Council were accepted.

The Secretary reported that the number of members in the INSTITUTE is now higher than at any previous time.

A letter from Carleton R. Ball of the U. S. Department of Agriculture, in praise of the report of the Committee on Employer-Employee Relationships was read.

A letter from Dr. Frank O. Lundstrom regarding the report of the Committee on Civil Service Classification and Promotion was read.

Dr. Northey, chairman of the Special Committee to consider the report of the Committee on Contracts, requested that action be taken on this report. It was moved that the report of the Committee on Contracts be published in *THE CHEMIST*. Members of the *INSTITUTE* are invited to send in their comments after the report has been published.

A letter from Dr. Thomas W. Mason of Pennsylvania State College was read.

Dr. Moore reported progress in connection with the arrangements for the annual meeting.

The Report of the Committee on Unemployment was presented, which recommended that the Institute undertake a national survey of positions and chemists available. After discussion, it was agreed that the American Chemical Society is doing splendid work through its Employment Clearing Office, and that it is in a better position to handle such work.

Upon motion made, seconded, and carried, the following new members were elected:

Fellows

Alikonis, Justin J.,
Chief Chemist, Paul F. Beich Company, Bloomington, Illinois.

Blumenthal, Saul,
Consulting Chemist, 471-10th Avenue, Brooklyn, New York.

Cole, Otis D.,
Assistant Director, Chemical and Physical Research Laboratories, Firestone Tire & Rubber Company, 1200 Firestone Parkway, Akron, Ohio.

Dietz, Albert A.,
Biochemist, Toledo Hospital Institute of Medical Research, 2805 Oatis, Toledo 6, Ohio.

Downey, Paul M.,
Research Chemist, Monsanto Chemical Company, Rubber Service Department, Nitro, W. Va.

Franks, Cleveland J.,
Professor of Chemistry and Chairman of Science Department, Texas College, Tyler, Texas.

Mattin, Harry E.,
Treasurer, Me a r l Corporation, 153 Waverly Place, New York, New York.

Maxwell, Charles E., III,
Research Chemist, Charles Pfizer and Company, Inc., 11 Bartlett St., Brooklyn, New York.

McCoy, Frederic C.,
Chemist, The Texas Company, 135 East 42nd Street, Room 2308, New York 17, New York.

McFadden, Robert S.,
Research Chemist, Firestone Tire & Rubber Company, 1200 Firestone Parkway, Akron, Ohio.

COUNCIL

Rothberg, Pincus,

General Manager, Montrose Chemical Company, 120 Lister Avenue, Newark 5, New Jersey.

Shaw, William L.,

Plant Manager, Chief Chemical Engineer, Silver Hill Products, Inc., 35 York Street, Brooklyn 1, New York.

Stavely, Frederick W.,

Director, Chemical and Physical Research Laboratories, Firestone Tire & Rubber Company, 1200 Firestone Parkway, Akron 17, Ohio.

Members

Applezweig, Norman,

Research Consultant, American Home Products Corporation, 350 Fifth Avenue, New York 1, N. Y.

Caroselli, Remus F.,

Ashton Plant Chemist, Owens-Corning Fiberglass Corporation, Ashton, Rhode Island.

Johnson, Omer C.,

Engineer, Tung-Sol Lamp Works 370 Orange Street, Newark, N. J.

Lazarus, Jack,

Chemist, R. H. Macy & Company, Inc., 47-09 30th Street, Long Island City, Long Island, New York.

Longbottom, John H.,

Director of Chemical Research, A. H. Wirz, Inc., 4th and Townson Streets, Chester, Penna.

Oyler, James R.,

Director of Research, The Knouse Corporation, Peach Glen, Pennsylvania.

Simonoff, Robert,

Organic Chemist, General Electric Company, Pittsfield Works Laboratory, Pittsfield, Massachusetts.

Smith, J. Hammond,

Chief Chemist, Titanium Division, Chemical and Pigments Company, Baltimore 22, Maryland.

Williams, Walter J.,

Analytical Chemist, Tobacco By-Products & Chemical Corporation, Box 726, Richmond, Va.

Associates

McElroy, John F.,

United States Coast Guard Reserve, 580 Montauk Avenue, New London, Connecticut.

Reinstated As Fellow

Cox, Edwin,

Division Manager, Chemicals Division, Virginia Carolina Chemical Company, Richmond, Virginia.

There being no further business, adjournment was taken.

Dr. Gustav Egloff, F.A.I.C., spoke on "Some Experiences in China" before a luncheon meeting of the Rotary Club of Atlantic City on April ninth. Dr. Egloff has just returned from a mission to China where he was engaged in a survey of China's petroleum industry.

Three new plants, located at Detroit, San Francisco, and Tuscaloosa, Alabama, are to be erected by Reichhold Chemicals, Inc., for the production of chemical color pigments.

CHAPTERS

Chicago

Chairman, H. R. Kraybill

Vice-chairman, F. B. Burns

Secretary-treasurer, Charles L. Thomas

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Council Representative, Martin de Simo

The Chicago Chapter enjoyed one of its most successful meetings of the year on March 29th, when Dr. Otto Eisenschiml addressed the group on the subject "What is Wrong with our Chemical Societies?"

Dr. Eisenschiml's address was followed by a panel discussion led by the following representatives of other societies: M. H. Arveson, American Chemical Society; H. McCormick,

American Institute of Chemical Engineers; Malcolm Dole, Independent Citizens' Committee of the Arts, Sciences, and Professions; L. J. Hayhurst, Chemical Arts Forum; and T. Kohman, Atomic Scientists.

An active discussion from the floor concluded an extremely interesting evening. The attendance was approximately one-hundred and twenty.

Los Angeles

Chairman, Henry W. Greenwood

Vice Chairman, Clifford R. Stewart

Secretary, Joseph B. Ficklen III

808 North Spring Street, Suite 810

Los Angeles 12, Calif.

Treasurer, Paul C. Rich

Council Representative, Albert Salathe

A meeting was held in the dining room of The Rosslyn Hotel in downtown Los Angeles on March 21, 1946. Thirty-five members and guests attended.

After dinner, Chairman H. W. Greenwood called for an outline of the year's program. Dr. Albert Salathe, substituting for the Secretary, presented the following:

(1) To create a strong internal or-

ganization, making full use of the manpower of the Chapter.

(2) To obtain meeting programs of general and varied appeal to both ourselves and to our guests.

(3) To make a special effort to increase membership.

(4) To work toward greater cooperation with other organized groups of chemists.

Treasurer Paul C. Rich was asked

CHAPTERS

for a statement of finances, which were reported ample.

After a short intermission a sound film was shown by William Hargens of Gilfillan Bros., Inc., picturing the operation of radar landing control for airplanes.

This was followed by a most in-

teresting talk by Dr. W. H. Pickering, associate professor of electrical engineering, on radar and its variations. A large number of questions by the audience was evidence of high interest in the talk. Mr. R. J. Blackinton, of the Program Committee, presided over the discussion.

Louisiana

Chairman, C. S. Williamson, Jr.

Secretary-treasurer, J. David Reid

Southern Regional Research Laboratory

2100 Robert E. Lee Boulevard

New Orleans 19, Louisiana

Council Representative, Harold A. Levey

News Reporter to THE CHEMIST, Helen M. Robinson

On March 25th, eighteen members and guests of the Louisiana Chapter met for dinner at historic Maylie's Restaurant. The dinner was in honor of Dr. Robert J. Moore, past president of the INSTITUTE and technical coordinator of the Bakelite Corporation. Dr. Moore later spoke at the Tulane University Chemistry Building. The Louisiana Sections of the American Chemical Society and the American Institute of Chemical Engineers were also invited to attend. The meeting was presided over by chairman C. S. Williamson, Jr. The speaker was introduced by Mr. Harold Levey.

Dr. Moore spoke on the subject "Licensing the Chemist." He pointed out the tremendous strides which civilization has taken due to chemistry and stated that one quarter of the working population was now engaged

in new trades due to chemistry. But in spite of the benefits given to the world by the chemist, he has neglected to work for himself. Chemistry is the only profession not licensed today. Lawyers, physicians, dentists, engineers, and architects are licensed but not the chemist who has no legal status. Dr. Moore then said that as long as the chemist has no professional status he will get little credit for his work. Anyone may call himself a chemist and for this reason many do. Because there is no legal definition of a chemist, there is great confusion and the chemist has sometimes found himself in many strange classifications. For example the navy at one time classed chemists with painters and New York city listed them with garbage collectors.

The A.I.C. has become the leader in the fight to license chemists. The

INSTITUTE, moreover, can become the "catalyst" of the whole profession. (A catalyst is something which speeds the reaction, particularly by applying heat and pressure.)

We need better appreciation of the chemist by the public and by the employer. It is not the salesman nor the financier who makes the new products, but the chemist. However, if the chemist wants to graduate into higher salary brackets it is often necessary for him to become an executive. This short-sighted policy is gradually beginning to be recognized as such. But how may the chemist obtain the recognition which is properly his? Unionization? No. Unionization is for tradesmen and laborers obtaining advancement based on militant bargaining. National certificates as chemists are a step in the right direction but still give no legal status to the chemist. The only answer to the chemist's dilemma is state licensing which is the first step toward recognition. But legal status cannot be obtained as long as any pharmacist or bench analyst may call themselves chemists. In some cases the engineer is permitted to go into the plant to run a reaction because he is a professional man, but the chemist is not permitted to "step out of his field" because unionized labor cannot recognize his rights as a professional man.

Dr. Moore concluded his talk by stating that chemistry would promote

great prosperity in the post-war era by great advancement and new developments, but we must not forget the welfare of the chemist himself.

The meeting was concluded with an open discussion and a motion was made and passed that an attempt be made to obtain a bill to license chemists at the next meeting of the Louisiana Legislature.

Fligor with McCordi Corporation

K. K. Fligor, F.A.I.C., formerly research chemist for Resinous Products and Chemical Company, has been appointed director of technical research for The McCordi Corporation, New York, N. Y. The McCordi Corporation is engaged in the development, processing, and distribution of plastic sheeting to the leather industry.



Dr. E. L. Luaces, F.A.I.C., spoke on February eighth before the Chicago Chapter of THE AMERICAN INSTITUTE OF CHEMISTS on the subject of, "Some Fundamental Requirements for Licensing a Profession." On February ninth, he addressed the Fifteenth Anniversary Meeting of the American Chemical Society Dayton Section, on "Some Wartime Developments on Drying Oils"; and on February 12th, he spoke before the Miami Valley Industrial Editors' Association, Dayton, on "Chemistry's Contribution to the Art of Printing."

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The nature and purpose of this valuable treatise are well explained in the preface. The 'reactions' of chemical kinetics and photochemistry are frequently not simple, but rather consist of a series of elementary steps which often involve atoms and free radicals. Such elementary reactions are therefore of major importance in explaining the mechanism of thermal and photochemical reactions. As information concerning elementary reactions is widely spread throughout the literature of chemical kinetics, photochemistry, pyrolysis, etc., it is usually very difficult to assemble the existing data on any given reaction. This book is an attempt to bring together such data, and to treat the reactions of atoms and radicals in their own right, rather than as an incidental part of the mechanism of more complex changes."

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ORGANIZATION OF TECHNICAL RESEARCH IN INDUSTRY. A Monograph. Industrial Research Institute. 1945. 16 pp. 6" x 9".

C. G. Worthington, secretary of the Industrial Research Institute, announces that the Institute's monograph "Organization of Technical Research in Industry", has been released for distribution outside its membership.

This booklet describes the research organization and the research department, research budgets, products service, library work, patent work, and the place of research in the company. Its contents are the result of question-

naires sent to members. Copies of the monograph may be obtained, without charge, on request to the Industrial Research Institute, 60 East 42nd Street, New York 17, New York.



The Society of the Plastics Industry, Inc., has prepared a booklet entitled "Plastics—the Story of an Industry." The booklet traces the development of plastics up to the present time and also includes a list of approved educational institutions which provide courses for the study of plastics.



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The Department of Commerce needs qualified technicians to carry on the work of searching German files. Routine work will be done by German civilians but qualified American technicians are needed in a number of industrial fields, including chemicals, general industrial equipment, fuels and lubricants, metals and minerals, scientific instruments, and textiles. Appointments are subject to Civil Service approval and are made for a minimum of six months. Those interested should write to Mr. John C. Green, Executive Secretary, Office of the Publication Board, Department of Commerce, Washington 25, D. C.



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Meeting Dates

May 16. Baltimore Chapter, THE AMERICAN INSTITUTE OF CHEMISTS. Loyola College, Baltimore, Maryland.

May 17-18. Annual Meeting. THE AMERICAN INSTITUTE OF CHEMISTS. Biltmore Hotel, New York, N. Y. Medal presentation and dinner, May 17th, to Mr. Robert Price Russell. May 18th, Visit to Standard Oil Development Company's Laboratories, Elizabeth, N. J. (Please refer to page 170).

MAY 31. Chicago Chapter. THE AMERICAN INSTITUTE OF CHEMISTS. Huyler's Restaurant, 310 South Michigan Avenue, Chicago. Dinner 6:15 p.m. followed by business meeting.

June (date to be announced). Miami Valley Chapter. THE AMERICAN INSTITUTE OF CHEMISTS. Student Medals presented to outstanding chemistry students in area.



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A rapid means of identifying the chemical elements in solids, liquids, and gases is afforded, according to Dr. H. A. Liebhafsky and Dr. E. H. Winslow of General Electric Company, by passing a beam of X-rays through the material.

"Self help," according to Angelo Patri, "is the only thing that stands by you in the end. What other folks do for you will not stick to you. It is like something pasted on ready to fall off with the first damp day, and fall it will. What you do for yourself is different. It is a part of you and will stay by you as long as you live."

The production of a new yeast, which contains 40 to 50 per cent protein and all of the B vitamins, at a cost of about twelve cents a pound from sugar cane in Jamaica, is an outgrowth of work by A. C. Thaysen of the British Department of Scientific and Industrial Research.

The 400-page report, Wartime Technological Developments, submitted to Congress by the subcommittee on war mobilization, contains 1,400 items that are good enough for ideas about the world of tomorrow.

Research Paper RP1652, of the National Bureau of Standards, describes a new method for the separation and determination of aromatic and olefinic hydrocarbons in mixtures with paraffins and naphthenes by selective absorption.

Sulfanildibromoanilide, according to G. R. Goetchius and C. A. Lawrence of Winthrop Chemical Company, is effective in the laboratory against boils, gas gangrene, gonorrhea, spinal meningitis, tetanus, and three types of pneumonia.

One way to stumble onto new products, according to *The Research Viewpoint*, is to maintain a "stumbling department" especially for that purpose.

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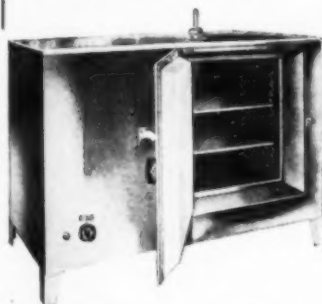


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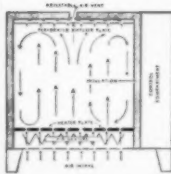
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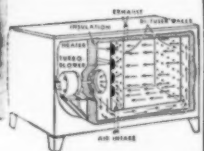


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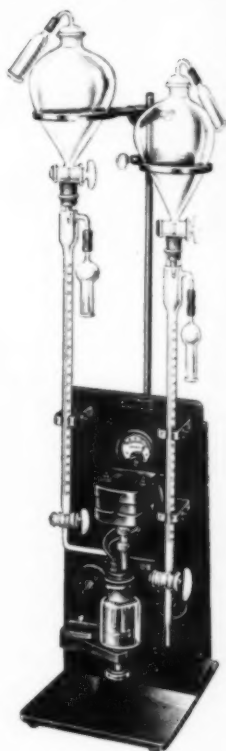
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